

**WHAT IS CLAIMED IS:**

1. In a concrete column supporting an overhead load and having a base and resting on a surface, a process of strengthening the column to increase its ability to withstand atypical physical loading accompanying an earthquake, comprising the steps of:

5 (a) defining a work area about the surface of the column to which said strengthening is to be applied, said work area defined by circumferential marginal edges arranged in spaced-apart relation about the column;

(b) overwrapping said work area with at least one layer of a unidirectionally reinforced thermoplastic sheet, said sheet wrapped around the column;

10 (c) welding said sheet to said column; and

(d) injecting a filler into an annular space between the sheet and the column, following welding.

2. The process as recited in claim 1 wherein the sheets are lap jointed via ultrasonics.

15 3. The process as recited in claim 1 wherein the sheets are applied to the column with a self-tightening winch.

4. The process as recited in claim 3 wherein the winch wraps the sheet around the column prior to welding.

5. The process as recited in claim 1 wherein the sheet has a thickness of from about 20 0.1 mm to about 3 mm.